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Imagining Beyond Extinctathon – Indigenous Knowledge, Survival, Speculation:

Margaret Atwood's and Ann Patchett's Eco-Gothic.

Both Margaret Atwood and Ann Patchett engage with issues concerning indigenous knowledge, biodiversity and survival. Margaret Atwood constructs a form of wilderness Gothic in *Surfacing* (1972) and *Survival* (1972), while in her darker eco-Gothic texts, *The Handmaid's Tale* (1985) and the *MaddAddam* trilogy (*Oryx and Crake*, 2003; *The Year of the Flood*, 2009; *MaddAddam*, 2013), she focuses on survival post holocaust. In her work she is influenced by indigenous knowledge and the awareness of imminent disaster should people fall out of harmony with nature, a threat enacted in these Canadian eco-Gothic dystopian fictions. This threat of extinction, of natural disaster based on arrogantly, deliberately or accidentally ignoring the importance of ecological diversity and of balance, of contestation, different voices and ways of being informs much of Atwood's work throughout her writing career and her everyday life. It is also of interest to many other women writers, including Ann Patchett from the US (*State of Wonder*, 2011), Alexis Wright from Australia (*The Swan Book*, 2013), Patricia Grace from New Zealand, (*Baby No-Eyes*, 1998), and Nalo Hopkinson from Jamaica/Toronto ("A Habit of Waste", 2001), each of whom engages with forms of indigenous knowledge, and recognizes the importance of diversity, exploring threats to survival and suggesting ways forward, and several of whom (including Patchett) evidence Atwood's influence on a younger generation of women writers. I should like to link Atwood's work to that of Ann Patchett, specifically her novel *State of Wonder*, which problematizes the involvement of non-indigenous people with the tribal behaviours, beliefs, and richness of the forest and jungle worlds in which they live in a balanced harmony.

Between them, in their work, Atwood and Patchett bring gender and sustainability issues to the fore by their use of eco-Gothic, emphasizing the damage done to natural

processes including fertility, by exploitation and unnatural controls. Both authors highlight lessons to be learned from indigenous values, behaviors, and wisdom, without underestimating the difficulties of translation, and the vulnerability of the peoples and their environments offering such insights and richness, or having them misused/stolen away.

This essay will focus in the main on the work of Atwood, particularly *Oryx and Crake*, with some reference to earlier work including *The Handmaid's Tale* and will consider these alongside Patchett's *State of Wonder*, focusing on their shared concerns with diversity, science, women's fertility, survival, and the form of a kind of eco-Gothic. In Atwood's texts and Patchett's *State of Wonder*, the Gothic combines with an ecological, dystopian message, one influenced by the insights of indigenous knowledge, which both warns of the dangers of falling out of harmony with nature, and offers positive behavioral ways forward.

For Atwood, particularly in *Surfacing* and *Oryx and Crake*, and Patchett in *State of Wonder*, a concern with indigenous knowledge also affects characterization, and the shape taken by the narratives. The works are influenced by tales of natural spiritual power, folk tale, a narrative trajectory moving variously through self-reflection, journeying, breakdown to survival, aligning with the wilderness, with the (human) animal (LeDrew, 2012). Patchett deals with an uneasy relationship between the Northern US and the rainforest civilisations of South America, while in talking of "Canadian Gothic", of which Margaret Atwood is a leading exponent, LeDrew identifies characteristics that "include the concept of 'North,' or 'Northernness,' the binary opposition of wilderness/civilization, monstrous histories, post-colonial hauntings, and a permeating sense of spatial and cultural disorientation."

Eco-Gothic

In the hands of Atwood and Patchett, feminist eco-Gothic offers a theorized lens on related issues of gender, ecological balance and imbalance, power and politics broadly conceived. It

dramatizes and exposes as monstrous the damage wrought by culpable meddling with natural processes, the future of the planet and its life forms, human lives and reproduction. Informing beliefs and behaviors are ironized and critiqued. Eco-Gothic uses the characteristics of the literary Gothic to expose belief systems and contexts as entrapping, resulting in physical, psychical and psychological control and destruction of ecological balance and human life. Both Patchett and Atwood use feminist eco-Gothic to emphasize examples of deadly misuse and misrepresentations of technology and science, and problems for a balanced human and natural co-existence, indeed for the continuity of life.

Somewhat surprised that the term has hardly been used previously, given the roots of the Gothic in Romanticism and the engagement of Romanticism with the strangeness, fruitfulness, sometimes threats of landscape, and the grandeur of abandoned, decayed, ruined buildings, Smith and Hughes (2013, 2) gather together a range of explorations in Gothic readings from the 18th century to Margaret Atwood. They interrelate characteristic elements of the Gothic, including “ambivalence”, “fragmenting”, and nuances of eco-criticism to form eco-Gothic. Speaking of *Frankenstein* (Shelley, 1818), they comment on the “disjunction between the utopian idealism of the project and its dystopian aftermath” (2), which could easily describe both *Oryx and Crake* and *State of Wonder*. Moving beyond Romanticism, recognizing different geographical/national inflections, including the fascination with wilderness and frontiers initially located in American writing (Thoreau, *Walden*, 1854) they then emphasize what is new i.e. contemporary. This includes an “urgency of ecological issues” (5), as we recognize environmental destruction, climate change, the extinction of plants, creatures, the destruction of habitats, in a dynamic living (or death) cycle. Familiar characteristics of eco-Gothic include a disruption of the idyll of the past and a revelation of the threats of trauma at the destruction of nature. Offering an ‘Ecofeminist literacy’ (2013, 160) Emily Carr argues ecofeminism “occurs at the intersection of gender justice, animal

rights, environmental conservation”, while her work on Gothic ecofeminist Joy Williams emphasizes the devastating deadly results of consuming animals and natural resources, seeing humans as “latecomers” to the planet. The Gothic ecofeminist “adapts, adjusts and improvises. She goes coyote: developing wiles for surviving, striving and transcending the selves that are given us” (173) true also of choices in Atwood and Patchett, Also in *Ecogothic*, Shoshanna Ganz (2013) talks of Atwood’s work and Rana Dasgupta (2014) considers “the traumatic impact of abstract economic systems on local ecologies and subjects” (13) in world cities. These are characteristics which emerge in both Patchett’s *State of Wonder* and several works by Atwood, particularly appearing in terms of writing about the invasion of eco-systems by alien systems and values, treating people and states as economic ciphers. A common theme is a plan to work towards a utopia, instead unleashing destruction. Such local and global warnings utilize the defamiliarization, the disruption, at the heart of eco-Gothic, showing the crucial linking between the environment and creatures, of which humans are often the most deadly, dangerous and totally damned. One of the characteristics is also a form of warning, played out in the narrative. Eco-Gothic texts have designs upon our values and behaviors, revealing and exposing constructs and contradictions, and by doing so offering overt or metaphorical suggestions that things could be otherwise, balance could be restored. An element they bring to the development of contemporary use of feminist eco-Gothic is the recognition of the inflections of gender and power in controls and monstrous results of the destruction of the balance of nature and of human life. Exposure of the monstrous abuse of gender and power is mitigated by recognition of and forward looking building on the worth of indigenous knowledge, of different worldviews more aligned with the environment, supporting diversity, ecological balance, survival. Atwood in particular has worked with these beliefs and systems.

Caution: extinction, indigenous knowledge

The “Brown box” in the Atwood archives in the University of Toronto, Thomas Fisher Library, reveals that Atwood was and still is extensively influenced in her writings by her sources in Canadian First Nations and Australian Aboriginal indigenous knowledge. This influence led to the indictment of selfish, blinkered, ecologically disastrous behaviours which threatened and caused the death of species, including most humans, in both *The Handmaid’s Tale* and the *MaddAddam* trilogy. *Biomimicry: Innovation Inspired by Nature* (Benyus, 1997) was one of Atwood’s influential sources, as was *North of Caution: A Journey through the Conservation Economy on the Northwest Coast of British Columbia* (Gill, 2001), a book produced about and through the conservation economy. In this latter, the Nisga’a tribe explain to visitors the unity between human and animal, light and dark, and berate the young who needlessly kill animals and fish (known to have supernatural powers), ignoring the warnings of their elders who “lived in constant dread of the catastrophe they knew would happen”. Such knowledge offers insights and terrible warnings. However, this knowledge is also partly responsible for speculation beyond “Extinctathon”, the game played in *Oryx and Crake*, which presages what threatens to be the end of the world.

Atwood’s eco-Gothic speculative works are influenced by the insights offered by indigenous knowledge and by the forms which indigenous tales take, both as cautions and as suggestions of ways forward. Indigenous insight in her work presents a clear warning, based on a different way of understanding relationships between nature, animal and human and seems to suggest that revising selfish, blinkered human behaviors might offer advice and hope for potential last minute disaster avoidance. Her views of sustainability derive in part from her own upbringing, oscillating between Canadian wilderness stations where her father worked as an etymologist and ran scientific experimental projects with graduate students, and

urban Canadian cities –Toronto and Ottawa. The wilderness was clearly both troubling, contrasting the urban context, and a location of biodiversity.

Atwood has by no means an idle interest in ecology and sustainability and the value of indigenous knowledge. She can hector alongside the activists, but she also uses the powers of her position and her writing to be heard. Her letters of support, her journalism and public appearances show a consistent engagement, as is similarly explored through narrative, where even from the jaws of extinction through ignorance, misplaced power and a refusal of diversity, there is a survival of human agency, and an ability to change, to morph, to evolve and so survive – lessons learned from nature and indigenous knowledge. J. Brooks Bouson (2004) points out that Atwood “draws openly on the discourse of environmentalism as she emphasizes the effects of global warming on the future world” (142) in which land turns arid, meat disappears and rivers and seas dry up, leaving humans without sustenance.

In Atwood’s “Brown Box” there is an accumulation of well-documented research, “so there’s nothing I can’t back up” (Atwood, “Writing *O&C*” 6). Atwood notes “with alarm that trends derided ten years ago as paranoid fantasies had become possibilities, then actualities” (Atwood “Aliens”, 2005). There are clippings from papers and popular science magazines, images, ideas and reports and, for *Oryx and Crake*, a webpage in her acknowledgments citing references consulted (Atwood, “Aliens”). There are also many letters from her pledging support for causes including, for example, a declaration she signed in February 1995 against the clearcutting of Clayoquot Sound, one of the world’s largest remaining areas of temperate rainforest, and letters urging publishers to not source paper from forest devastation. She sent a copy of the declaration to David Robbins of Greenpeace. Atwood is a member of the Council of Patrons of Friends of the Earth since January 1997, and alongside clippings of eco events and copies of, for example, *Friends of the Earth* journal issue 75 Nov/Dec 1996, are many letters supporting a variety of causes: against lead shot, acid rain, for animal causes, a

2007 Great Lakes speech, comments against reliance on oil, and in February 19, 2014 a letter against the Amherst island windfarm, seen as a disaster because built in an important bird area. In “A Matter of Life and Debt” (2008) Atwood comments: “is there any bright side to this? Perhaps we’ll have some breathing room – a chance to re-evaluate our goals and to take stock of our relationship to the living planet from which we derive all our nourishment, and without which debt finally won’t matter.” She wrote in the *Globe and Mail* ‘A second chance or a boot in the face’, concerning protests in Toronto against the G20 (2010) and was involved in the protest on correctional facilities which use the worst of these measures. In the “How to Change the World for 2012” Nexus conference, Atwood wrote on Rachel Carson’s book *Silent Spring* (1962) and commented on the World Bank’s 2012 report, “Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided”, that if such a rise happened, existing institutions would be less effective or collapse, hoping we can reverse the destructive drift. In her interview “Fiction, future, environment”, she shows concern about de-oxygenating the world’s oceans, and so the planet (2012).

In the Introduction to a new edition of *Survival* in 2012, Atwood comments on the wisdom of First Nations people: “I was talking recently to a Canadian First Nations man who sells whitefish at a local farmers market, I mentioned Zebra mussels, an invasive species that is now a large and destructive presence in the Great Lakes, what did he think should be done about this problem? I asked him. ‘Nature will take care of it’ he said.” (2013)

Atwood’s research into the beliefs and practices of First Nation Canadians and the Aboriginal concept of dream time relates to her environmentalism which Osborne comments “reveals the deep roots of the ‘saving graces’ she emphasizes in her novel. The indigenous people of Australia see all life and all phenomena as part of a vast system of relationships, all connected” (43). Her lecture series, published as *Negotiating with the Dead* (2002), and her dystopian fiction each deal with the influences and mistakes of the past, her fascination with

fictionalizing and with the power that published and oral narrative has to affect ways in which we see, construct worlds and deal speculatively with problems.

Her appreciation of the importance and value of indigenous knowledge, as a Canadian, is seen early in her work, and builds momentum through these dysfunctional, dystopian novels based on eco disasters, informed by her engagement with environmental causes, her deliberate contact with, work with and support for indigenous peoples, their development and their voices.

Atwood's novels, often also labelled speculative fiction or even science fiction (a label she only recently accepted), evidence the defamiliarization, the grotesque, the disruption, and the questioning enabled by the Gothic. They emphasize the importance of balance, of recognizing diversity of view, of being, recognizing and supporting that eco-diversity, contestation in views, and richly diverse behaviors and species offer a balanced version of nature, while over-regulation, control, animal destruction, or re-use and emptying out of creatures, peoples, ways of life, and points of view offer only stagnation – entropy, a system running down instead of one that thrives on difference and diversity.

In her poem “Frogless” (1995) Atwood depicts a cameo of ecological disaster: deformed animals and plants, betrayed nature, a broken chain of existence:

The sore trees cast their leaves
too early. ...

She uses images of drunkenness, hot for cold, cold for hot, reversals of normal behaviors of plants, creatures, and people. The effect on the next generation is deadly:

The people eat sick fish

because there are no others.

Then they get born wrong. (“Frogless”)

Defamiliarization, the *unheimlich*, informs this new frogless world, which she suggests will soon have overtaken the familiar and expected. The threat is as much to human procreation and continuity, as to the extinction of creatures, plants, the land, due to ignoring a balanced relationship with nature. The threat of the gradual or rapid realization of such ecological disasters through ignorance of the ecosystem, often in the name of progress, underpins Atwood’s work throughout her writing career, as does the revelation of a dedication to destruction based on an emptying out of values of being human, being in nature, and of the interdependency of the planet. This is backed up in everyday life by her consistent engagement with sustainability, ecological balance, and survival, and the insights offered by indigenous peoples in these areas.

The early novel *Surfacing*, the critical work establishing her take on Canadian writers and writing, *Survival: A Thematic Guide to Canadian Literature* (1972), *Strange Things: The Malevolent North in Canadian Literature* (1995), and the short story collection *Wilderness Tips* (1991), among other work, deploy eco-Gothic to problematize the use of wilderness as a kind of leisure escape, a fantasy of discovery and survival, or myth concerning natural creatures. For example, in the short story *Wendigo* (1995), Atwood shows that a survival narrative drives Canadians and (male) explorers in particular but most often leads to failure, death on the ice. Atwood’s popular focus is on the Canadian frontier dreams of grand conquest of the far north, which recur in tales of Lord Franklin’s cursed expedition, where those on a quest for the far North died on the ice (Gayathri, 2016) (of lead poisoning if not of starvation and freezing and, latterly, it seems, following the 2017 discovery in the ice of the ships *Erebus* and *Terror*, of cannibalism). As Coral Ann Howells puts it, there is a “shared

recognition of complicity in her strong warning against global pollution as wilderness relates to myth” (2006, 48).

The Handmaid's Tale

Global pollution is at the heart of Margaret Atwood's *The Handmaid's Tale*, which emphasizes some of the terrible consequences of destroying a balance in nature and amongst people. Unlike the later *Oryx and Crake*, where the forces of control have been eradicated, in *The Handmaid's Tale* post nuclear disaster, social structures and artificial, power-based relationships are maintained by military rule, silencing and brutal punishment. Roles for women are stratified to reflect their social use, so some are hostess wives; Marthas do the housework; and handmaids procreate, though often bear sick or deformed offspring to their owner/masters. Historical, proven knowledge, free speech, and debate are denied, as exemplified in the emblematic use of the walls of Harvard University, now a fortress of unknowing, of lies, on which are hung the bodies of the hooded detractors of Gilead's fundamentalist, tyrannical state control. Here, Atwood's feminist eco-Gothic, dystopian novel envisions a post-apocalyptic world nearly destroyed by greed, ignorance, and meddling with nature's struggles, its wastelands barely able to produce food, its men and women infertile. It is a novel about power, severe rules to enable a society devoid of joy and hope to direct itself towards some sort of policed survival. For Offred, the handmaid of the title, named for the man of high office whom she serves, Fred, undermining of the rules enforced by the hierarchy leads to gifts of magazines and playing board games. Patchett's *State of Wonder* focuses on marketing women's fertility, while in Atwood's novel the system operates a very strict control of the fertile, their right and duty to breed. There are both state-managed brothels and legalized sexual slavery for the handmaids, dressed in long robes, with wimples covering their faces, a mix of fundamentalist and High Catholic garb, forced to have sex with

their Commanders. Disaffection or questioning of bizarre constraints leads to banishment in the toxic wastelands, or death. In this tyrannically controlled totalitarian state based on survival and procreation, women's silencing and managed fertility are of utmost concern, as they are to Atwood and the decades of readers who have been able to consider reproductive technologies, religious and fundamentalist controls and tyrannies, and the disempowerment of women inspired by the novel. Controlled fertility offers the only future for humankind in this novel of gender and power, silencing, control, and also a challenge to those through identity and narrative. It is an ecological novel about sustainability – or its lack. *The Handmaid's Tale* presents a monstrous future, that ultimately, in the face of disastrous decision making – war, misuse of man-made weapons, ecological disaster – could wipe everything out, render the world sterile. The narrative emphasizes agency, the importance of having control over one's own body and voice, of refusing the enforced language and behaviours of a misdirected power emptied out of values. Diversity, fertility, and agency are the only hope for the future. Control over human life and fertility are a staple of the Gothic, their origins in *Frankenstein*. In Atwood's *Oryx and Crake* scientific experimentation almost wipes out fertility, while Patchett's novel also focuses on controls over women's fertility with a wonder drug made from indigenous tree bark.

The Maddadam trilogy – *Oryx and Crake*

Talking of *Oryx and Crake* and *The Year of the Flood*, Shoshannah Ganz heralds “the inception of a new mutation of the Gothic” (87), “using the markers of the Gothic to advocate environmental awareness and change before the crazed monster at the centre of the text destroys all life forms” (88). But this is the mutated eco-Gothic, the ravaged worlds, the sense of a world both familiar (geographically) and unfamiliar.

The years just before and after a global catastrophe are the context for the *Maddadam* trilogy. While a toxic wasteland surrounds the violently controlled state in *The Handmaid's Tale*, in *Oryx and Crake*, the first novel in the trilogy, Margaret Atwood explores the culpable carelessness and amorality which lead to global destruction. Massive misuse of power, of technology, biochemistry, reproductive rights and an utter lack of any care for anything living result in devastation of the environment and the population. This is followed by post-apocalyptic dysfunctional existence, where the detritus of modern living is all that is left, watched over with bemusement by Jimmy/Snowman. He sees himself as like the Abominable Snowman, "existing and not existing, flickering at the edges of blizzards, apelike man or manlike ape, stealthy, elusive, known only through rumours and its backward-pointing footprints." (*O&C* 7-8)

Seemingly the only survivor, Jimmy/Snowman's own body is raddled and wasted, his mind confused, guilt ridden, and overwhelmed by multiple voices of a gone world. The novel opens with his isolation, dismay, and precarious position poised on the edge of the dying world. Jimmy's reflections in 2025 tell us of the time before the destruction of the world, and some of the mistakes made which led up to it. A (secret) police (Corpsecorps) state protected the Compounds containing the scientists, whose lives were sterile in terms of control and rigidity of lifestyle, but safer than those in the chaos of the disordered world outside, in the plebelands. In their safely managed environment in the compound, Jimmy/Snowman and Crake/Glenn played Extinctathon, a game operating on the narrative rules of kill 'em and destroy 'em games, and which allowed them to gradually, albeit virtually, kill off all "strange", other species, without repercussions, without punishment, without engagement with reality. Meanwhile, beyond their hothouse game world, larger scale games were played with tyrannical, technologically controlled scientific experiments, notable for their total lack of care about the precious ecological balance, the importance of morality, ethics,

sustainability, and the continuity of diversity. Bouson suggests that Atwood “conveys her uneasiness as she describes the degradation of culture in a society where violence and pornography have become cheap, and readily available, forms of entertainment” (143). This lack of care peaked when games turned reality and an older Crake scientifically constructed a BlyssPluss pill, which aimed to allow sexual enjoyment without pregnancy. When unleashed on the world, the side effects are infertility and death, terrifying evidence of the dangers of disrupting the chain of nature, and substituting first amoral control, then total dissolution and chaos. Significantly, *Oryx and Crake* was published on the fiftieth anniversary of Crick and Watson’s discovery of the double helix structure of DNA, which maps the code of all living organisms, which this dysfunctional society, coupled with Crake’s amoral experiments, seems determined to destroy. Here, the Gothic roots of the novel in *Frankenstein* are revealed. Meddling with nature unleashes horror, death, the almost complete extinction of humanity, but it also leads to the eventual production of the Crakers, a gentle new species.

Seeing the novel’s tone as “dark, dry, scabrously witty, yet moving and studded with flashes of pure poetry” Lisa Appignanesi (2003) compares *Oryx and Crake* to *Nineteen Eighty-Four* (Orwell, 1949), “Like Winston Smith and Offred the Handmaid, Jimmy believes in the power of love. For him, it’s too late. But he’s not alone on his beach. In the burning sun which does them no harm, there are the beautiful, innocent green-eyed Crakers, the ultimate in genetic engineering.” (Appignanesi, 2003). Jimmy/Snowman’s humanity re-emerges in his care for and leadership of the gentle Crakers, and this, alongside his discovery of a few remaining humans, ensures some basic continuity of species.

Howells notes “death hangs over the novel from the start” (2006, 162) and Jimmy/Snowman seems to tell his tale to himself alone, “Any reader he can possibly imagine is in the past” (*O&C* 46), although later it seems he leaves an article for Oryx, the Asian woman and ex-online porn star beloved by both men. Tara Pepper (2003, 49) suggests that

Atwood is “exploring a brutal world ravaged by climate change and populated by genetically modified animals and hubristic scientists”. Ingersoll (1990) sees traces of H.G. Wells’ *The Island of Dr. Moreau* (1896) in the novel, perhaps because of its doom-laden, futuristic dystopian vision and focus on genetic engineering and splicing of animal-human hybrids, including the ‘ratunks’ and the ‘pigoons’, created at ‘OrganInc Farms’, which have “human cunning with no diminution of animal savagery” (Ingersoll 193). The novel also seems to indicate that the arts, compassion, creativity, passion, imagination, humanity, and diversity must be preserved, or humankind, nature, and the reason for all life are under threat of extinction. Life without these values and qualities just explodes, implodes, or empties out.

Atwood’s eco-Gothic imagines a post-apocalyptic dystopia in *Oryx and Crake*, and the *Maddadam* trilogy, but has suggestions for avoiding the destruction, and/or moving forwards afterwards, partly based in indigenous knowledge. Patchett’s eco-Gothic in *State of Wonder* uses the defamiliarization experienced by a scientist, Dr Marina Singh, on her journey into an utterly un-translatable context and culture in the Brazilian rainforest. Singh is sent to find out about the ostensible disappearance and death of her colleague while working with a scientific team living among a remote tribe. Her journey and experiences enable the novel to ask questions about the ethical role of multinational Big Pharma and scientific endeavour in relation to disease, fertility, and cultural difference. Patchett’s eco-Gothic involves a form of journey into a heart of darkness, where indigenous knowledge could be stolen, left alone, or used appropriately.

Valuing diversity and seeking survival are at the heart of Patchett’s and Atwood’s work.

State of Wonder

State of Wonder (2011), Patchett's sixth novel, focuses on issues of scientific ethics in the engagement between Big Pharma, advanced US American pharmacy companies, intent on both making money and offering what ageing women seem to want, i.e. fertility, and issues of indigenous community, and ethics, within a Gothic context. Defamiliarization, scientific experimentation with bodies and minds, the rights of less powerful others, as well as issues of biodiversity lie at the heart of this eco-Gothic novel set mainly in the Amazonian rainforest. This setting is starkly in contrast to the plains of Minnesota, where pharmacists develop plans and drugs based on the ecology and lives of places and peoples they can never understand. Reproductive technology and value were also important in *The Handmaid's Tale*, and in Patchett's novel scientific interference in fertility and human lives force readers to question difference, diversity, intrusion, mistranslation. The eco-Gothic here, as with Atwood's novels, raises moral questions about human behavior critical to the survival of plants, lifestyles, diversity. *State of Wonder* follows 42-year-old Marina Singh, pharmacologist in (rather frozen) Eden Prairie, Minnesota, at the Vogel Pharmaceutical Company, to deep in the tropical, relatively uncharted Amazonian rainforest (another kind of Eden – both are constructs). Singh seeks a colleague, Anders Eckman, reported dead, but this novel like Atwood's *Surfacing* and *Oryx and Crake* is one of a double journey, of revisiting history and self reflection, and across space, wilderness, into the wilder unknown. En route Singh newly understands complex things about her own history with her absent Indian father and her medical student past. Similarly, in Atwood's *Surfacing*, the nameless protagonist begins an exploration of place, her history, and herself on a remote island in the Canadian wilderness, where she takes three more urban friends, and tries to discover what happened to her dead father. *Surfacing* uses a structural motif and metaphor of the beautiful heron, seen flying across the natural habitat, its criss-crossing the story offering narrative cohesion and potential of seeking links with indigenous and wilderness values. However, the heron when killed is a

visible, threatening sacrifice to invasive, aggressive, urban monetarist values initially considered American, recognized as American-influenced Canadians, so showing the destruction of land, animals, birds and lifestyles waged by invasive and contagious Others. In Patchett's novel, there are also invasions, by Big Pharma, and misinterpretations of culture.

Like Atwood's *Oryx and Crake*, *State of Wonder* makes essential connections between the intrusive, corrosive power of science and technology on indigenous lifestyles and uses the characteristics of eco-Gothic, including defamiliarization and the monstrous, with huge plants, remote locations and tropical illnesses. There are also links between concerns with fertility in *The Handmaid's Tale* and childbirth, rebirthing in *Surfacing*, the BlyssPluss pill's rendering humans infertile, and the natural fertility powers of the indigenous rainforest among the Lakashi in Patchett's novel. Amongst the Lakashi, the established, childless scientist Annick Swenson lives and works with a stolen/saved native indigenous boy, appropriately named Easter, since he was revived and reborn twice, first in this scientific society in which he is dumb, and finally back into his own culture which initially rejected him because of his disability. The novel asks fundamental questions about future generations, the relationship between Northern and Southern lives and their worth, and the ethics of science and multinational pharmaceutical companies bent on processing natural products from the rainforest for US gain. Fertility, fecundity, valuing rather than plundering and appropriating the richness of difference, and, ultimately a sustainable future are at stake here. Childbirth and children are pivotal concerns. In a relationship which will not lead to children, confused by the loss of her own father who left his US family and returned to India, and a second wife, Marina is dedicated to find the remains of Anders, the lost, presumed dead predecessor whose family – three little energetic boys – an ordinary home, wife Karen, are a sign of fecundity and future. The Hummmoca child Easter was abandoned, adopted into the scientists' lives, and acts for Singh as a guide to coping with the difference in the rainforest

but is finally returned to his tribe. Swenson's child dies; Singh doubts she will have children and historically caused a terrible injury to a baby in her careless surgery; Anders Eckman seems to have left his lively sons behind and disappeared to die in the rainforest, and the drug being produced from the bark of the local trees aims to confer permanent fertility, both a blessing and a curse for women. Children are bartered, left, bereft, sought – Swenson's own pregnancy is an experiment and the malformed child is like a ruined experiment in science – what kind of positive future can be read for this?

The rights of multinational scientists to exploit the natural resources of the rainforest, imposing their monetarist aims upon people for whom money has no meaning is also at the core of the novel. They intend to exploit and mass process the tree bark which makes the tribal women of the Lakashi permanently fertile, to offer fertility to American women, particularly to career women who have put career first as they ignored the ticking of their biological clocks. A very useful side effect of the natural drugs which can be further developed from this bark is a cure for malaria, although it is suggested this is less of a focus for the pharmaceutical companies, because it is less profitable (defining malaria as largely devastating poor or malnourished populations rather than the rich). Swenson kept the secret of the by-product, thus explaining her cryptic and rare reports. While Atwood's writing and her supportive work outside fiction highlights and helps preserve the recognition of indigenous knowledge and practices, Patchett's work problematizes some of the capitalist US's relationships with the people from whom such knowledge, practice, and resources come.

Making a link between Patchett's work and Atwood's themes, concerns, and narrative structures, Helen Brown (2011) notes of *State of Wonder* that "Patchett's account of Marina's journey to the humid heart of the jungle grips slowly and steadily, like a python, as she

develops her Atwoodian themes. Muscular layers of drama, ideas and psychology coil themselves slickly around the reader's brain."

It is relatively straightforward to find Atwood's research and engagement with indigenous peoples in her letters of support and appearances, as well as her visits to First Nations Canadian people, and Aboriginal people in Australia, while Patchett's research relationship is based on her research visit to the Amazonian rainforest, (Wyrick, 2011) where she travelled on the Amazon in Peru on a small boat (the trips in Brazil were on much larger boats), experienced watching another guest (who turned out to be a professional snake handler) pull a 15-foot anaconda from the water into the boat (an event played out in the novel when a budding tour guide brings on board a snake which almost kills Easter, luckily rescued by Marina's knife). Patchett suffered blisters in her mouth from Lariam, and gradually realized the novel she was researching and writing was coming to resemble *Heart of Darkness* (1899) rather than Henry James' *The Ambassadors* (1903), though James' novel also features an American travelling (to Paris) to bring someone home.

Marina Singh is not a tourist, but her experiences of a tropical location and of a very different culture to her own mixed Indian/US Minnesota background disturb any sense of cohesive identity or grasp on "reality". The misunderstandings, the hallucinatory nature of existing in such a very different climate, both in the liminal city of Manaus, which splices versions of the northern and southern hemispheres, and in the deepest Amazonian rainforest where the Lakashi live, studied by Annick Swenson, remind one of the eco-Gothic of Atwood's *Surfacing*. The remoteness, the disruption of recognition points in context, culture, language, and climate, which destabilize any hold on identity and familiar convention, are suitable to ask some fundamental questions about values, rights, and difference. In Manaus, Marina goes to the opera, the experience recalling the film *Fitzcarraldo* (1982) by Werner Herzog who the *New York Times Book Review* calls "the patron saint of all thrillingly ill-

considered voyages into the unknown” (Maslin, 2011). More particularly, in the land of the Lakashi, and the (cannibal) Hummocca we appreciate the traveller’s view of difference, starting with a homage to the insect life and its interest in Marina’s thicker blood. On arrival on the continent, she imagines that “every insect in the Amazon lifted its head from the leaf it was masticating and turned a slender antenna in her direction.” (65)

As with *Surfacing* and *Oryx and Crake*, there are two journeys in this novel; Marina’s self-reflective recall of her childhood history, and the physical journey, deep into the rainforest along the alien (to her) Amazon river. Several critics focus on what is more than merely an exotic setting, on the utter otherness of atmosphere, context, as it also affects the ability to move through wonder to grasp a sense of manageable reality, where as well as the humid atmosphere and the state of semi-delirium, the richness of living plants, creatures, and people, everything and everyone is overwhelmingly alive. Maslin emphasises the alien: “The book finally hits its jungle stride with long-toed birds, water foliage as thick as lettuce and, beneath its cover, an anaconda worse than anything that ever made Marina wake up screaming” (Maslin, 2011), and, linking atmosphere, events and place to the deeper questions the tale raises. Helen Brown notes

Although the pace often feels as slow, muddy and dreamy as the Amazon in its lazier stretches, it pulls you on with a powerful undertow of profound questions, compelling characters and startling revelations. There are many strange and difficult twists and truths tangled like roots beneath the surface of this story. (Brown, 2011)

State of Wonder is partly based on Conrad’s *Heart of Darkness*, and recalls *Apocalypse Now* (1979), both of which highlight the mis-readings of the foreign other and the terrifying destructive imperialist behavior of the civilized westerner. For Marina it is a voyage of self

discovery. She leaves the very dull relationship with her manager Dr Fox, a lab, a concrete car park, for the timelessness and technology-redundant people and place. Phone, language, every day behavior from the western world have no merit, force, or measure here. But her experiences with Annick Swenson, Easter, the scientific set-up in the Lakashi village raise many questions about invasive cultural values, mistranslation, science, and ethics. The development of tropical rain forest materials – wood sap, plants – for fertility treatments for aging western women is a central focus, and this raises questions about whether it is ethical to take, to hide or to experiment with people and with these natural products. In considering indigenous people, lifestyles and ecological balance, is it ethical to remain silent, share, steal, misrepresent?

Easter was abandoned by his parents because he was deaf, the Lakashi brought him up and Swenson adopts him. In the end he is handed back to his parents. Ethics, responsibility, scientific knowledge and intercultural knowledge are important here. The strangeness and relative simplicity of the lifestyle of the Lakashi resembles that of Atwood's Crakers, who also construct rituals around fertility and rely on community.

Commenting on the splicing of suburban American lives in Minnesota, the cold mechanistic processes of pharmaceutical companies and the exoticized superabundance and fecund confusion of the rainforest lifestyle, Fernanda Eberstadt notes the

deadpan narrative style showcases a dry humor that enables her to wed, with fine effect, the world of "Avatar" or the "Odyssey" with that of corporate board meetings, R&D reports and peer review. This unlikely marriage of the magical and the prosaic, of poison-tipped arrows and Fourth of July barbecues, informs every line of her prose. So the initial view of the Lakashi as 'ululating, flame-brandishing bacchantes' gives

way in the morning to seeing “a working-class tribe, a sober group of people who went about the business of their day without fanfare or flame.” (Eberstadt, 2011)

Singh has excelled in and relied on data and measures, and charts everything while simultaneously being confused, guilty over her mistake in a delivery which led to an unborn child’s eye being cut, and closely involved with Easter who for both Singh and Swenson is the child they never had nor will have, and someone they cannot understand how to save in this utterly different world. There are secrecy, ethical quandaries, conflicts between invested money and the variety of outcomes, and cover-ups since Swenson’s discovery that the Rapps, mushrooms grown round the fertility tree, can enable an anti-malarial product to help its sufferers, mostly the poor, is of great importance but must be kept secret as in the economic relation between money, pharmacy, life preservation and ecology, only the fertility drug will be prioritised.

Marina, troubled by the intrusive presence of Swenson and others, and the untranslatability of the language, beliefs and ways of the people, is less sure of the ease with which the bark can easily be translated into a wonder drug. She is not a heroine, but already one whose background, origins and life can nudge her into the awareness of problems attached to translating and exploiting other cultures.

Scientific interference is of concern in the novel since on arrival to conduct experiments as part of Dr Rapps’ team (the hallucinogenic mushrooms are named after the doctor), Annick Swenson felt it her immediate moral duty to help a bleeding man whose head had been hit by a machete. Suddenly recognized as a doctor, able to cure, sew up and sort out medical problems, her concern was being overwhelmed with medical emergencies and unable to conduct her scientific experiments. But her other concern was interference. By helping people she is part of the intrusion and upsetting of indigenous ways of life:

The question is whether or not you choose to disturb the world around you, or if you choose to let it go on as if you had never arrived. That is how one respects indigenous people. If you pay any attention at all you will realize that you could never convert them to your way of life anyway. They are an intractable race. Any progress you advance to them will be undone before your back is turned. You might as well come down here to un-bed the river. The point then is to observe the life they themselves have put in place and learn from it (62-3).

In her focus on the indigenous knowledge of the Lakashi, which is deeply embedded in the cultural context, Patchett raises issues about the cultural inflection of knowledge construction and interpretational use, and ways in which that knowledge might be understood, conveyed, used, exchanged in different cultures.

Indigenous knowledge sometimes seems not only to be misunderstood by other cultures, but only respected for what can be developed, stolen, made financially useful for the richer nations, who used their scientists, along with their explorers. In this respect I am reminded of *One Hundred Years of Solitude* (Marquez, 1967), when a chance encounter leads to the exchange of information about bananas, which in turn then leads to deforestation, banana plantations, the encircling of the new plantation owners behind electric fences on which perching local swallows are fried, analogous to the devastation of the local ways of life by this incursion from the predatory capitalist north.

Marina is on the anti-malarial Lariam, which causes hallucinations and terrible night fears, a contributing horror of trips to visit her father in India. Now with the Lakashi, it worsens her disorientation: “The trick of the Lariam was to figure out which part was the dream and which part was her waking life” (56). She too needs a wonder drug, and this links

her to the by-products of the use of tree bark, but, in this carefully balanced, unique ecosystem, the Rapps mushrooms could, like the bananas in Marquez' novel, open up the whole area to exploitation because of their hallucinogenic qualities. It seems every natural richness must remain secret or its wider use would ruin the delicate balance of context, people, plants, and lifestyle.

Ecological balance and context are interlinked like the tree system: "The tree system is one tree cloning itself so that the area is affected. The tree poisons the area it inhabits to make sure that nothing else will survive in its space and take the nutrients" notes Dr Budi (259). The Rapps can survive there, the mushrooms

considered to be the greatest single discovery in mycology. There had never been any evidence that this ecosystem duplicated anywhere else than in the rain forest, anywhere in the world. The trees you're looking at here, these mushrooms, this is it. As far as we know these are the only Rapps in the world. Your passport to spiritual enlightenment. (260)

Nancy Satum points out, however,

This place would be over-run, drug dealers, the Brazilian government, other tribes, German tourists, there's no telling who would get here first and what sort of war would ensue. The only thing I know for sure is that the Lakashi would be destroyed, their entire existence is built around Rapps (260).

The snakes are dangerous, the mushrooms hallucinogenic, the people part of the ecosystem of the place and removal, development or translation would upset this balance. Even Easter

cannot be removed and rescued. A decision to rescue him into an American family, the Eckstroms (since Anders did not die, but was himself rescued, cured and adopted by the Hummocca) would be disastrous all round. The otherness of this indigenous location, plants people, its ecological balance, are all emphasised here.

The moral is clear: “you can’t make a hearing boy out of a deaf boy, and you can’t turn everyone you meet into an American. Easter isn’t a souvenir anyway, a little something you put in your pocket on your way out to remind you of your time in South America,” says Dr Swenson (245).

The novel’s main focus is on research ethics working in contexts with indigenous lives, peoples and their locations. It emphasizes transitional difficulties between cultures, and the misplaced ease of believing that scientific discoveries in one cultural context can, should, be used by, transposed to, interpreted by another culture. Cultural difference, knowledge production and translation and ownership are at its heart, asking fundamental questions about Northern and western appreciation, celebration, understanding and use of indigenous knowledge which must move beyond the discovery, raid, reproduction and ownership model.

Conclusion

Both Atwood and Patchett use eco-Gothic to highlight problems of abuse, appropriation and carelessness regarding nature and human lives which should, they suggest, live in an interactive harmony rather than an economic relationship of destruction or exploitation. Each deals with cultural difference, with the ethics of scientific experimentation, particularly that which involves humans, their bodies, their cultural and social lives, and their habitats. Fertility, families, communities and human rights lie at the heart of both, each of which argues, in the words of Audre Lorde, that difference is not a reason for destruction, or hierarchy (199). At the base of both texts are science and consumer capitalism, which have

made the lives of Jimmy and Crake managed, safe, sterile, and utterly removed from the mess and complexities of everyday life, including its morality. Their computer game-oriented existence behind closed doors in a sanitized compound, away from the variety and messiness of the rest of the world, gives them a sense of control which is shown as blinkered, arrogant, and dangerous – their extinction might be a computer game, but it is also a model for the destruction of living things. Like the distance of a controller from a drone which hits a human target, their relationship to the damage they do is too distant to engage any sense of morality. The human race is almost completely wiped out in the combination of a history of nastiness about reduction in mess and difference, and the control over human fertility, the BlyssPluss pill, administered through Crake's power.

Preventing or enforcing breeding are each endgames, leading to the devastation of human life. Power of choice over women's fertility dominates the scientific practices in *State of Wonder*, where American research scientists are fascinated with the richness of indigenous plant life in the Lakashi tribe, and the ability of the bark of the tree to enable life-long fertility for women. The relationship in the novel between the exploitation of indigenous plant forms and the lack of any consideration over manipulating the lives of the local people for financial benefit is indicted through the details of the life of the stolen child and death of the female scientist's child, a product of using herself as an experimental model. *Frankenstein* lurks in the background as a major influence in both novels.

Erosion of the rights of different people and different life forms is condemned in both novels, as is the extinction of rich diversity in the name of some kind of scientific capitalist control which seeks to impose certain values and lifestyles, with no sense of caution for what is destroyed in the process, and no awareness of the delicate balance of the world ecosystems. The Atwood texts and Patchett's *State of Wonder* each use a narrative trajectory of journeying into the self and through space to find resolutions and new ways forward, and

most of the texts explore the importance and richness of indigenous knowledge as something to be valued, rather than abused, exploited or denied. Evolving, celebrating difference, rather than total destruction, is an underpinning message of each text.

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